

WHAT IS CLAIMED IS:

1. A lamp device for a vehicle comprising:
 - a light source;
 - a reflector in which a reflection surface is a free
 - 5 curved surface;
 - a lens having no prism; and
 - a reflected light by said reflector transmitting
 - through said lens so as to be irradiated to an external
 - section in accordance with a target light distribution
 - 10 pattern,
 - wherein said lens is formed in a recess shape in a
 - vertical cross section and a horizontal cross section.
 2. The lamp device for a vehicle according to claim 1,
 - 15 wherein the reflection surface of said reflector is
 - structured such that the vertical cross section and the
 - horizontal cross section are formed in a substantially oval
 - surface larger than said lens.
- 20 3. The lamp device for a vehicle according to claim 1,
 - wherein a free curved surface formed on the reflection
 - surface of said reflector is a non-uniform rational B-spline
 - surface (NURBS).

4. The lamp device for a vehicle according to claim 2, wherein a free curved surface formed on the reflection surface of said reflector is a non-uniform rational B-spline surface (NURBS).

5

5. The lamp device for a vehicle according to claim 1, wherein a torus curved surface or a free curved surface is formed on a front surface or/and a back surface of said lens.

10

6. The lamp device for a vehicle according to claim 2, wherein a torus curved surface or a free curved surface is formed on a front surface or/and a back surface of said lens.

15

7. The lamp device for a vehicle according to claim 3, wherein a torus curved surface or a free curved surface is formed on a front surface or/and a back surface of said lens.

20

8. The lamp device for a vehicle according to claim 4, wherein a torus curved surface or a free curved surface is formed on a front surface or/and a back surface of said lens.

25